① $x^2 - 5x + 6 = 0$

$a = 1$, $b = -5$, $c = 6$ $\Big\}$ $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1} = \frac{5 \pm \sqrt{25 - 16}}{2} =$$

$$= \frac{5 \pm \sqrt{9}}{2} = \frac{-5 \pm 3}{2} \begin{cases} \frac{-5+3}{2} = -1 \\ \frac{-5-3}{2} = -4 \end{cases}$$

$\boxed{x_1 = -1}$

$\boxed{x_2 = -4}$

② $x^2 + x - 6 = 0$

$a = 1$, $b = 1$, $c = -6$ $\Big\}$ $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$$x = \frac{-1 \pm \sqrt{1^2 - 4 \cdot 1 \cdot (-6)}}{2 \cdot 1} = \frac{-1 \pm \sqrt{1 + 24}}{2} =$$

$$= \frac{-1 \pm \sqrt{25}}{2} = \frac{-1 \pm 5}{2} \begin{cases} \frac{-1+5}{2} = 2 \\ \frac{-1-5}{2} = -3 \end{cases}$$

$\boxed{x_1 = 2}$

$\boxed{x_2 = -3}$